

DRAFT

TRANSPORTATION-AIR QUALITY CONFORMITY ANALYSIS

FOR THE

AMENDMENT TO THE TRANSPORTATION 2030 PLAN &

2007 TRANSPORTATION IMPROVEMENT PROGRAM

AMENDMENT 07-06

March 9, 2007

Public Comment Period
March 9, 2007 – April 9, 2007



METROPOLITAN
TRANSPORTATION
COMMISSION

Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, CA 94607-4700
PHONE 510.817.5700
TTY/TDD 510.817.5769
FAX 510.817.5848
WEB www.mtc.ca.gov

MTC Project Staff

Doug Kimsey
Director, Planning

Ashley Nguyen
Project Manager

Planning Staff

Harold Brazil
Ben Espinoza
Raymond Kan
Chuck Purvis
Rupinder Singh

Programming and Allocations Staff

Ross McKeown
Raymond Odunlami

TABLE OF CONTENTS

I. Introduction	1
Purpose of Conformity Analysis	1
Status of Regional Transportation Plan.....	2
Status of Transportation Improvement Program.....	4
II. Bay Area Air Pollutant Designations.....	5
National 1-Hour Ozone Standard	5
National 8-Hour Ozone Standard	6
National 8-Hour Carbon Monoxide Standard.....	6
Approved Motor Vehicle Emissions Budgets.....	7
III. Conformity Analysis & Results.....	7
Approach to Conformity Analysis	7
Consultation Process.....	9
Comparison of Motor Vehicle Emissions To Budgets.....	10
IV. Transportation Control Measures.....	12
History of Transportation Control Measures.....	12
Status of Transportation Control Measures.....	15
V. Response to Public Comments.....	19
VI. Conformity Findings.....	20

APPENDICES

- A-1: List of Project Changes in the Amendment to the Transportation 2030 Plan
- A-2: List of New Non-exempt Projects Amended into 2007 TIP Amendment 07-06
- A-3: List of Projects in the 2007 TIP Amendment 07-06 Implemented by 2015
- A-4: List of Transportation Control Measures (TCMs) Projects
- B: Travel Forecasting Assumptions

LIST OF TABLES

- 1: VOC and NOx Emissions Budgets from 2001 Ozone Attainment Plan
- 2: Vehicle Activity Forecasts
- 3A: Emission Budget Comparisons for Ozone
- 3B: Emission Budget Comparisons for Carbon Monoxide
- 4: Emissions Reductions for Transportation Control Measures (TCMs) A – E
- 5: Transportation Control Measures (TCMs) in the State Implementation Plan
- 6: Federal Transportation Control Measures for Ozone (TCMs A – E)

This page intentionally left blank.

I. INTRODUCTION

The Metropolitan Transportation Commission (MTC) prepares a transportation air quality conformity analysis when MTC amends or updates its long-range regional transportation plan (RTP), or adds or deletes regionally significant, non-exempt projects into the Transportation Improvement Program (TIP).

The purpose of this conformity analysis is to conform the proposed Amendment to the Transportation 2030 Plan and proposed update to the 2007 TIP (herein referred to as the 2007 TIP Amendment 07-06) in accordance with EPA's transportation conformity regulations and the Bay Area Air Quality Conformity Procedures (MTC Resolution No. 3757). This conformity analysis includes a new regional emissions analysis because:

1. One current project is being shifted from the vision element into the financially constrained element of the Transportation 2030 Plan due to new funding from Proposition 1B Corridor Mobility Improvement Account (CMIA) funds. This project is the I-880 Southbound High-Occupancy Vehicle (HOV) Lane Extension from Hegenberger Road to Marina Boulevard.
2. One new project is being added to the financially constrained element of the Transportation 2030 Plan due to new funding from Proposition 1B CMIA funds. This project is the I-880 HOV Lane Extension in both directions from State Route 237 to U.S. 101.
3. Project costs and finances of several projects in the Transportation 2030 Plan are being updated due to new funding from Proposition 1B CMIA funds and other local/state/federal funds; however, these financial changes do not trigger a conformity analysis.
4. Non-exempt projects from the Transportation 2030 Plan are being added to the 2007 TIP via Amendment 07-06 due to new funding from Proposition 1B CMIA funds, STIP Augmentation funds, unprogrammed federal earmark funds, and other local funds. It is important to also note that MTC is preparing a formal update to the 2007 TIP via Amendment 07-06 to make the TIP compliant with Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA) planning regulations by July 1, 2007.

This report explains the basis for the conformity analysis and provides the results used by MTC to make a positive conformity finding.

Purpose of Conformity Analysis

The 1990 Clean Air Act Amendments (CAAA) outlines requirements for ensuring that federal transportation plans, programs and projects are consistent with ("conform to") the purpose of the State Implementation Plan (SIP). Conformity to the purpose of the SIP means that transportation

activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards.

A conformity finding demonstrates that the total emissions projected for a RTP or TIP are within the emissions limits ("budgets") established by the SIP, and that transportation control measures (TCMs) are implemented in a timely fashion.

Conformity applies to areas that are designated non-attainment, and those redesignated to attainment after 1990 ("maintenance areas" with plans developed under Clean Air Act section 175A) for ozone, particulate matter, carbon monoxide, and nitrogen oxide. The U.S. EPA published conformity regulations to implement the 1990 CAAA conformity requirements in November 1993, and revised them in August 1995, November 1995, August 1997, July 2004, and May 2005.

Metropolitan Planning Organizations such as MTC are required to adopt and follow these regulations. In the Bay Area, the procedures were first adopted in September 1994 to comply with the 1990 CAAA. Four subsequent amendments to the transportation conformity procedures in August 1995, November 1995, August 1997, and July 2006 have been adopted by the three co-lead agencies (MTC, Association of Bay Area Governments (ABAG), and Bay Area Air Quality Management District (BAAQMD)). MTC Resolution 3757 represents the latest San Francisco Bay Area Transportation Air Quality Conformity Protocol adopted by the three agencies in July 2006. Acting on behalf of the three agencies, the BAAQMD has submitted this latest Protocol to California Air Resources Board (CARB) as a revision to the California State Implementation Plan (SIP). CARB approved this proposed revision to the Conformity SIP in December 2006, and transmitted it to U.S. EPA for final action. U.S. EPA anticipates final action on the revision to the Conformity SIP this spring 2007.

These regulations and resolutions state in part that, MTC cannot approve any transportation plan, program or project unless these activities conform to the purpose of the federal air quality plan (officially titled the State Implementation Plan, or SIP). "Transportation plan" refers to the RTP. "Program" refers to the TIP, which is a financially realistic set of highway and transit projects to be funded over the next four years. A "transportation project" is any highway or transit improvement, which is included in the RTP and TIP and requires funding or approval from the Federal Highway Administration or the Federal Transit Administration. Conformity regulations also affect regionally significant non-federally funded projects which must be included in a conforming transportation plan and program.

Status of Regional Transportation Plan

The Transportation 2030 Plan is the current long-range regional transportation plan for the nine-county San Francisco Bay Area adopted by MTC in February 2005 (MTC Resolution 3681). The Transportation 2030 Plan represents a strategic investment plan to improve system performance for

Bay Area travelers over the next 25 years and includes a set of highway, transit, local roadway, bicycle and pedestrian projects identified through regional and local transportation planning processes.

Similar to previous long-range plans, the Transportation 2030 Plan is made up of two separate elements. The “financially constrained” element includes those transportation projects that would be funded through revenues projected to be reasonably available over the next 25-year horizon of the plan. The more comprehensive “vision” element identifies illustrative transportation projects that would be funded through revenue measures that may become available in the future through either legislative action or voter mandate.

MTC prepared a conformity analysis that addresses only those projects identified in the financially constrained element of the Transportation 2030 Plan. The Federal Highway Administration and Federal Transit Administration approved MTC’s conformity determination for the Transportation 2030 Plan and 2005 TIP/Amendment #05-05 on March 17, 2005.

Proposed Amendment to the Transportation 2030 Plan

MTC proposes to amend the Transportation 2030 Plan to take advantage of the funding opportunities presented by Proposition 1B, which is a roughly \$20 billion transportation bond approved by California voters on November 7, 2006. Proposition 1B features a \$4.5 billion statewide competitive Corridor Mobility Improvement Account (CMIA) aimed at improving performance on highly congested corridors. On January 10, 2007, MTC submitted the region’s proposed Program of Projects for the CMIA, totaling over \$2 billion in significant corridor mobility and congestion relief projects in the nine-county Bay Area. Following the project nomination and selection process, the California Transportation Commission adopted a Program of Projects for the CMIA on February 28, 2007. The Bay Area successfully received an allocation of close to \$1.7 billion in CMIA funds plus an additional \$300 million in Proposition 1B State Transportation Improvement Program (STIP) Augmentation funds, totaling \$2.0 billion.

This Amendment to the Transportation 2030 Plan consists of the following updates:

1. Adds the \$2.0 billion in Proposition 1B funds into the financial assumptions for the financially constrained element of the plan, increasing the projected 25-year revenues for State revenues in the financially constrained element from \$14 billion to \$16 billion. In total, the 25-year revenue estimate for the plan increases from \$118 billion to \$120 billion.
2. Adds one new project into the financially constrained element. This project is the I-880 HOV Lanes Extension from SR 237 to U.S. 101, as described below.

This HOV gap closure project along I-880 in Santa Clara County involves adding an HOV lane in each direction, extending the HOV system connecting Santa Clara and Alameda counties by four miles. Either no or minimal right-of-way will be needed. This project is

currently not identified in the Transportation 2030 Plan so the RTP Reference Number to be assigned to this new project is 22944. This Amendment will add this project into the financially constrained element and identify the estimated \$142.7 million project cost.

3. Shifts one current project from the vision element into the financially constrained element of the plan. This project is the I-880 Southbound HOV Lane Extension from Hegenberger Road to Marina Boulevard, as described below.

This HOV gap closure project along I-880 in Alameda County involves extending the existing southbound HOV lane from its current beginning point approximately 1,000 ft. south of the Marina Boulevard overcrossing to the Hegenberger on-ramp, extending the HOV lane by almost three miles. It also reconstructs bridges over I-880 at Davis Street and Marina Boulevard to provide standard vertical clearance over the freeway. This project is currently identified in the vision element under RTP Reference Number 22670 but without identification of its costs. The Amendment will shift this project into the financially constrained element and identify the estimated \$108 million project cost.

4. Updates the cost and financial information for all projects receiving Proposition 1B CMIA funds and/or other local/state/federal funds.

Refer to **Appendix A-1** for detailed description of project changes included in the Amendment to the Transportation 2030 Plan.

Status of Transportation Improvement Program

The latest conformed TIP is the 2007 Transportation Improvement Program adopted by MTC on July 26, 2006 (MTC Resolution No. 3755). All projects included in the 2007 TIP are derived from and/or consistent with the financially constrained element of the Transportation 2030 Plan. The Federal Highway Administration and Federal Transit Administration approved MTC's conformity determination for the 2007 TIP on October 2, 2006, which also served to re-conform the Transportation 2030 Plan.

Proposed 2007 Transportation Improvement Program Amendment 07-06

MTC proposes to amend the 2007 TIP in the form of a formal amendment via Amendment 07-06 to include the following:

1. Demonstrate the TIP's compliance with SAFETEA planning requirements;
2. Establish the TIP as being a four-year programming document (which would enable Caltrans to reflect the four-year program of projects in the Statewide TIP (also called the Federal State TIP (FSTIP)));

3. Update existing TIP projects; and
4. Add new projects derived from the financially constrained RTP into the TIP due to available new funding that allows the project or phases of the project to advance (including Proposition 1B funds, STIP Augmentation funds, unprogrammed federal earmark funds, and other local funds).

Refer to **Appendix A-2** for detailed description of new non-exempt projects being added to the 2007 TIP through 2007 TIP Amendment 07-06. Furthermore, the 2007 TIP will document the updates to the financial assumptions (see 2007 TIP).

II. BAY AREA AIR POLLUTANT DESIGNATIONS

National 1-Hour Ozone Standard

On November 6, 1991, the U.S. Environmental Protection Agency (EPA) designated the Bay Area as a moderate ozone non-attainment area. Based on “clean” air monitoring data from 1990 to 1993, the co-lead agencies—BAAQMD, MTC, and ABAG—determined that no ozone violations had occurred and requested the California Air Resources Board (ARB) to forward a redesignation request and an ozone maintenance plan to U.S. EPA.

On May 25, 1995, the Bay Area was classified as an ozone maintenance area, having attained the 1-hour national ozone standard for five years (1990-1994). However, on July 10, 1998 the U.S. EPA published a Notice of Final Rulemaking redesignating the Bay Area back to an ozone non-attainment (unclassified) area. This action was due to violations of the 1-hour standard that occurred during the summers of 1995 and 1996, and became final on August 10, 1998.

On October 31, 2003, U.S. EPA proposed a finding of attainment of the national 1-hour ozone standard for the Bay Area. The proposed finding was based on air quality monitoring data from the 2001, 2002, and 2003 ozone seasons. In April 2004, U.S. EPA made a final finding that the Bay Area had attained the national 1-hour ozone standard. Because of this finding, some of the elements of the 2001 Ozone Attainment Plan, submitted to EPA to demonstrate attainment of the 1-hour standard, were suspended. The finding of attainment did not mean the Bay Area had been reclassified as an attainment area for the 1-hour standard. To be reclassified, the region would have had to submit a formal redesignation request to EPA, along with a maintenance plan showing how the region would continue to attain the standard for ten years. However, this redesignation request was no longer necessary upon the establishment of the new national 8-hour ozone standard.

On April 15, 2004, EPA issued the first phase of the final implementation rule designating and classifying areas not meeting the federal 8-hour ozone standard. This phase of the implementation rule explained how EPA was classifying areas not meeting the national air quality standard for 8-hour ozone. It also established a process for transitioning from implementing the 1-hour standard

for ozone to implementing the more protective 8-hour ozone standard. The rule also established attainment dates for the 8-hour standard and the timing of emissions reductions needed for attainment. The 8-hour designations and classifications took effect on June 15, 2004; and one year following this effective date, EPA revoked the 1-hour standard.

National 8-Hour Ozone Standard

In July 1997, U.S. EPA revised the ozone standard, setting it to 0.08 parts per million in concentration-based form, specifically the 3-year average of the annual 4th highest daily maximum 8-hour ozone concentrations. In April 2004, EPA issued final designations for attainment and non-attainment areas. The Bay Area monitoring stations recorded concentrations that exceeded the national 8-hour ozone standard for 2001, 2002 and 2003. In April 2004, EPA formally designated the Bay Area as a non-attainment area for national 8-hour ozone, and classified the region as “marginal” based on five classes of non-attainment areas for ozone, ranging from marginal to extreme. Marginal, non-attainment areas must attain the national 8-hour ozone standard by June 15, 2007.

On July 1, 2004, EPA published a final rule amending the transportation conformity rule to address the new national 8-hour ozone standard. The amended rule stated that Plans and TIPs in nonattainment areas must be found to conform against the new standard by one year after the effective date of designation – by June 15, 2005 for 8-hour ozone areas. Conformity for the 1-hour ozone standard will no longer apply in existing 1-hour ozone nonattainment and maintenance areas once the 1-hour ozone standard is revoked; this occurred on June 15, 2005. Furthermore, prior to 8-hour budgets being established, all areas with adequate or approved 1-hour motor vehicle emission budgets must use them to demonstrate conformity with the 8-hour ozone standard, unless it is determined through interagency consultation that using the interim emissions tests is more appropriate. The conformity finding in this report is based on the approved 1-hour motor vehicle emissions budget.

On December 22, 2006, the U.S. Court of Appeals for the District of Columbia Circuit vacated U.S. EPA’s Phase 1 8-hour ozone implementation rule. U.S. EPA is currently analyzing all aspects of the decision including impacts on transportation conformity requirements, and will provide guidance to metropolitan planning organizations (MPOs) in the near future. In the interim, as determined through interagency consultation, MTC was advised to continue to proceed with a conformity analysis for the 8-hour ozone standard using the approved 1-hour motor vehicle emissions budget.

National 8-Hour Carbon Monoxide Standard

In April 1998, the Bay Area was redesignated to a “maintenance area” for the national 8-hour carbon monoxide (CO) standard, having demonstrated attainment of the standards. As a maintenance area, the region must assure continued attainment of the CO standard.

Approved Motor Vehicle Emissions Budgets

The Bay Area has conformity requirements for both the federal ozone and CO standards. Under these requirements, the Bay Area has to meet a motor vehicle emission “budget” test for Volatile Organic Compounds (VOC), Nitrogen Oxides (NO_x) and CO. To make a positive conformity finding, MTC must demonstrate that the calculated motor vehicle emissions in the region are lower than the approved budgets. As mentioned above, under EPA’s new conformity rule for the national 8-hour ozone standard, the existing 1-hour motor vehicle emission budget is to be used for conformity analyses until it is replaced by another budget.

For the ozone precursor emissions VOC and NO_x, the applicable motor vehicle emissions budget was developed for the 2006 attainment year as part of the 2001 Ozone Attainment Plan and was subsequently approved by EPA.

For CO, the applicable motor vehicle emissions budget was developed for the 2004 Revisions to the California State Implementation Plan for Carbon Monoxide (herein referred to as the 2004 Carbon Monoxide Maintenance Plan).

The motor vehicle emission budgets are listed below:

VOC:	164 tons per day (2006 and beyond)
NO _x :	270.3 tons per day (2006 and beyond)
CO:	1,850 tons per day (2003 and beyond)

On road motor vehicle emissions are analyzed for various analysis years that must not be more than 10 years apart, or more than 10 years from the base year used to validate the model (2000). For this conformity analysis, the analysis years are 2006, 2007, 2015, 2025, and 2030 for VOC and NO_x. MTC has prepared separate travel forecasts for the Bay Area for each of these years. For CO, the analysis years are 2006, 2007, 2015, 2018, 2025, and 2030. Travel forecast data for year 2018 were interpolated between 2015 and 2025. These travel forecasts are then used to calculate motor vehicle emissions.

III. CONFORMITY ANALYSIS & RESULTS

Approach to Conformity Analysis

Motor vehicle emissions for future years are estimated using MTC’s travel demand forecast model (BAYCAST 2000), which estimates vehicle activity in the Bay Area, and the California Air Resources Board’s latest model for determining motor vehicle emissions (EMFAC2002). The

MTC travel demand model requires various inputs. MTC has used the latest planning assumptions for the purpose of preparing this TIP conformity analysis.

The MTC travel demand model requires various inputs, including demographic inputs for future population and employment growth in the Bay Area. This conformity analysis uses the latest socio-economic/land use forecast series *Projections 2005* developed and adopted by ABAG and the latest validated version of the MTC travel demand model (BAYCAST, 2000).

The ABAG projections incorporate the new regional “Smart Growth” land use assumptions, which have been approved for use in the conformity analysis by the US DOT and EPA, subject to preparation of a future monitoring report. ABAG has submitted a monitoring report for *Projections 2005* for review by US DOT and EPA, and is currently modifying that report in response to comments received. A revised monitoring report for *Projections 2005* will be available for review by late spring 2007. The latest projections (*Projections 2005*) reflect the near term effects of the current economic slowdown on job creation in the Bay Area between years 2000 through 2005. In addition to the demographic changes occurring over time, the travel demand model determines how changes in the highway, transit, and bicycle network affect people’s travel behavior and ultimately the amount of vehicle activity that will occur in the region.

The list of transportation projects in the 2007 TIP, including projects being proposed for inclusion in the 2007 TIP through TIP Amendment 07-06 that will be implemented in the Bay Area by 2015 and affect regional vehicle activity, are shown in **Appendix A-3**¹. A list of specific projects implementing TCMs A through E is included in **Appendix A-4**. Other key modeling inputs and methodological issues are detailed in **Appendix B**.

Motor vehicle emissions are then calculated by using the vehicle activity outputs from MTC’s travel demand forecasting model for the various analysis years, together with the California Air Resources Board (ARB)’s latest motor vehicle emission model (EMFAC2002 version 2.2, April 23, 2003). EMFAC2002 accounts for the effectiveness of the State’s vehicle inspection and maintenance program, called Enhanced Smog Check Program in the Bay Area. The Bureau of Automotive Repair (BAR) is currently in the regulatory process for developing a mobile source measure for low pressure evaporative testing of vehicles, and this measure will be in place by late 2007 and further reduce mobile source emissions.

Because of differences between ARB’s estimate of Bay Area Vehicle Miles of Travel (VMT) and the VMT estimates from MTC’s travel demand forecast model, MTC adjusts the regional VMT forecasts (both regional and county level) upward after the initial vehicle activity forecasts are prepared. The process generally involves using the MTC model-predicted VMT growth rates and

¹ The full list of projects modeled for conformity analysis can be found in the Appendix B of the *Final Transportation Conformity Analysis for the Transportation 2030 Plan for the San Francisco Bay Area and 2005 Transportation Improvement Program/Amendment #05-05* (February 2005).

applying these growth rates to ARB's 2000 base year VMT. To account for this higher VMT in the emission calculations, MTC adjusts the vehicle populations (by county) in EMFAC 2002 per ARB's *Recommended Methods for Use of EMFAC2002 to Develop Motor Vehicle Emissions Budgets and Assess Conformity* (<http://www.arb.ca.gov/planning/sip/emfac2002/emfac2002.htm>). This methodology also ensures that evaporative hydrocarbon emissions are not underestimated.

In addition to regional and county VMT estimates, the amount of VMT occurring at different speeds is critical to the estimation of motor vehicle emissions. New speed distributions for 2006, 2007, 2015, 2025 and 2030 were applied to passenger cars (PC), light-duty trucks (T1, T2), medium-duty trucks (T3), and motorcycles (mcy) in EMFAC 2002. EMFAC2002 model "default" values were used for all other vehicle types (such as heavy duty trucks) and times of day. Separate peak period speed distributions were utilized for the AM and PM peak periods, while off-peak period speed distributions were employed during the hours representing the 18 off-peak hours of the daily travel demand assignment.

Consultation Process

MTC has consulted on the preparation of this conformity analysis and other conformity related issues with the Bay Area's Air Quality Conformity Task Force. The Conformity Task Force reviews the assumptions going into the analysis, and consults on TCM implementation issues, and reviews the results. The Conformity Task Force is composed of representatives of U.S. EPA, ARB, FHWA, FTA, Caltrans, MTC, BAAQMD, ABAG, the nine county Congestion Management Agencies, and Bay Area transit operators. The meetings are open to the public and are regularly attended by interested members of the public. Topics covered in past meetings of this group include the following:

January 2007

- Proposed 2007 TIP Amendment 07-06
- Proposed Amendment to the Transportation 2030 Plan
- Approach to the Conformity Analysis for the Amendment to the Transportation 2030 Plan and 2007 TIP Amendment 07-06
- Air Quality Updates

February 2007

- Administrative Draft Conformity Analysis for the 2007 TIP 07-06 and Transportation 2030 Amendment
- Air Quality Updates

Comparison of Motor Vehicle Emissions To Budgets

As explained earlier, motor vehicle emissions budgets are established in the SIP for VOCs, NO_x and carbon monoxide (CO). To make a positive conformity finding, the regional motor vehicle emissions must be equal to or less than these budgets. The results of the vehicle activity forecasts and motor vehicle emission calculations are shown below for each separate analysis year. For VOC and NO_x, the motor vehicle emission budget also reflects anticipated emission reductions from five Transportation Control Measures (TCMs) incorporated in the 2001 Ozone Attainment Plan (Table 1).

**TABLE 1
VOC AND NO_x EMISSIONS BUDGETS FROM 2001 OZONE ATTAINMENT PLAN (TONS/DAY)
(SF BAY AREA-EMFAC 2000)**

VOC	
2006 On Road Motor Vehicle Emissions	168.5
2006 Mobile Source Control Measure Benefits	(4.0)
2006 TCM Benefits	(0.5)
2006 Emissions Budget	164.0
 NO_x	
2006 On Road Motor Vehicle Emissions	271.0
2006 TCM Benefits	(0.7)
2006 Emissions Budget	270.3

**TABLE 2
VEHICLE ACTIVITY FORECASTS***

	2006	2007	2015	2025	2030
VEHICLES IN USE	5,084,099	5,146,988	5,884,899	6,769,168	7,269,775
Daily VMT (1000s)	172,298	174,090	194,764	218,793	232,621
Engine Starts	33,893,781	34,247,285	38,510,161	43,292,850	45,971,240

*VMT forecasts have been adjusted per CARB recommended methods (see Appendix B)

Carbon Monoxide Maintenance Plan Budget

The budget for carbon monoxide is derived from the 2004 Carbon Monoxide Maintenance Plan and is 1,850 tons per day for 2003 and beyond.

Comparison of Estimated Regional Motor Vehicle Emissions to the Budget

The motor vehicle activity forecasts for the Transportation 2030 Amendment and 2007 TIP Amendment 07-06 for the various horizon years are converted to motor vehicle emission estimates by MTC using EMFAC2002 (version 2.2, April 23, 2003). EMFAC2002 includes the effects of the implemented (October 2003) enhanced Inspection/Maintenance program for the Bay Area with Test-Only stations (AB 2637, Cardoza, 2002). ARB estimates that the emission reductions in the Bay Area in 2006 from this enhanced Smog Check program are 10 tons per day for VOC and 16

tons per day for NO_x. In addition, as mentioned previously, BAR is currently in the regulatory process for developing a mobile source measure for low pressure evaporative testing of vehicles, and this measure will be in place by late 2007 and further reduce mobile source emissions.

Table 3A and 3B compares the results of the various analyses with the applicable budgets. The analyses indicate that the motor vehicle emissions are substantially below the budget, due in large part to recent improvements in ARB's latest EMFAC model which reflect the effects of cleaner vehicles in the California fleet and the enhanced Smog Check program now in effect in the Bay Area. With respect to the new Maintenance Plan motor vehicle emission budget for CO, Table 3B shows that calculated motor vehicle emissions will be well below the new budget of 1,850 tons per day in 2018 as well.

The estimated effectiveness of the various Transportation Control Measures, given their current implementation status is shown in Table 4. TCMs A through E are fully implemented. They have achieved the required cumulative total emission reductions of 0.5 tons per day of VOC and 0.7 tons per day of NO_x by 2006.

TABLE 3A
EMISSIONS BUDGET COMPARISONS FOR OZONE
(TONS/DAY WITH BUDGETS BASED ON SF BAY AREA-EMFAC 2000 AND ON ROAD MOTOR VEHICLE
EMISSIONS USING MORE CURRENT EMFAC 2002, V2.2)

Year	VOC Budget	On-Road Motor Vehicles VOC	TCMs*	Net Emissions
2006	164.0	126.5	(0.3)	126.2
2007	164.0	116.3	(0.3)	116.0
2015	164.0	68.6	(0.3)	68.3
2025	164.0	44.6	(0.3)	44.3
2030	164.0	38.2	(0.3)	37.9

Year	NO _x Budget	On-Road Motor Vehicles NO _x	TCMs*	Net Emissions
2006	270.3	248.8	(0.5)	248.3
2007	270.3	229.8	(0.5)	229.3
2015	270.3	123.5	(0.5)	123.0
2025	270.3	67.0	(0.5)	66.5
2030	270.3	55.9	(0.5)	55.4

*The transit services for TCM A Regional Express Bus Program were modeled. The emission benefits from TCM A are therefore included in the On-Road Motor Vehicles VOC and NO_x emission inventories for 2006 and beyond.

TABLE 3B
EMISSIONS BUDGET COMPARISONS FOR CARBON MONOXIDE

Year	2004 CO Budget*	Estimated CO
2006	1,850	1,320.0
2007	1,850	1,204.9
2015	1,850	647.8
2018 (interpolated)	1,850	558.5
2025	1,850	350.2
2030	1,850	297.0

* 2004 Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for 10 Federal Planning Areas

TABLE 4
EMISSIONS REDUCTIONS FOR TRANSPORTATION CONTROL MEASURES (TCMS) A – E IN STATE IMPLEMENTATION PLAN THROUGH JUNE 2006 (TONS PER DAY)

TCM	VOC Emission Reductions through December 2006	NOx Emission Reductions through December 2006
TCM A Regional Express Bus Program	0.20	0.20
TCM B Bicycle/Pedestrian Program	0.04	0.03
TCM C Transportation for Livable Communities	0.08	0.12
TCM D Expansion of Freeway Service Patrol	0.10	0.25
TCM E Transit Access to Airports	0.09	0.13
Total Reductions	0.5	0.7

IV. TRANSPORTATION CONTROL MEASURES

History of Transportation Control Measures

Transportation control measures (TCMs) are strategies to reduce vehicle emissions. They include such strategies as improved transit service and transit coordination, ridesharing services and new carpool lanes, signal timing, freeway incident management, increased gas taxes and bridge tolls to encourage use of alternative modes, etc. With the exception of the five new TCMs (A-E), the original set of TCMs has been completed. The TCMs were added over successive revisions to the SIP (see Table 5). For more information on TCMs 1-28, which are completed, see the last *Transportation Air Quality Conformity Analysis for the 2001 Regional Transportation Plan and FY 2001 Transportation Improvement Program Amendment 01-32 (February 2002)*. This report can be found in the MTC/ABAG Library.

- Twelve (12) ozone measures were originally listed in the 1982 Bay Area Air Quality Plan.

- In response to a 1990 lawsuit in the federal District Court, sixteen (16) additional TCMs were subsequently adopted by MTC in February 1990 as contingency measures to bring the region back on the “Reasonable Further Progress” (RFP) line. The Federal District order issued on May 11, 1992, found that these contingency TCMs were sufficient to bring the region back on the RFP track anticipated in the SIP. These measures became part of the SIP when U.S. EPA approved the 1994 Ozone Maintenance Plan.
- Two (2) transportation control measures from the 1982 Bay Area Air Quality Plan apply to Carbon Monoxide control strategies, for which the region is in attainment with the federal standard, and primarily targeted downtown San Jose (which had the most significant CO problem at that time.) MTC also adopted a set of TCM enhancements in November 1991 to eliminate a shortfall in regional carbon monoxide emissions identified in the District Court’s April 19, 1991 order. Carbon monoxide standards have been achieved primarily through the use of oxygenated/reformulated fuels in cars and with improvements in the Smog Check program.
- As part of EPA’s partial approval/partial disapproval of the 1999 Ozone Attainment Plan, four (4) TCMs were deleted from the ozone plan (but two of these remain in the Carbon Monoxide Maintenance Plan).
- Five (5) new Transportation Control Measures were adopted as part of the new 2001 1-Hour Ozone Attainment Plan and are fully funded in the TIP and 2001 Regional Transportation Plan.

With respect to TCM 2 from the 1982 SIP, there has been a protracted debate, leading to a citizens lawsuit in federal court, about the obligations associated with this TCM. On April 6, 2004 MTC prevailed in the U.S. Court of Appeals for the Ninth Circuit which concluded that TCM 2 does not impose any additional enforceable obligation on MTC to increase ridership on public transit ridership by 15% over 1982-83 levels by November 2006 (*Bayview Hunters Point Community Advocates v. Metropolitan Transportation Com’n*, (2004 WL 728247, 4 Cal. Daily Op. Serv. 2919, 2004 Daily Journal D.A.R. 4209, 9th Cir.(Cal.), Apr 06, 2004)). Thus TCM 2 has been resolved, and there are no further implementation issues to address in this TCM.

TABLE 5
Transportation Control Measures (TCMs) in the State Implementation Plan

<i>TCM</i>	<i>Description</i>
<i>Original TCMs from 1982 Bay Area Air Quality Plan</i>	
TCM 1	Reaffirm Commitment to 28 percent Transit Ridership Increase Between 1978 and 1983
TCM 2	Support Post-1983 Improvements in the Operators' Five-Year Plans and, After Consultation with the Operators, Adopt Ridership Increase Target for the Period 1983 through 1987
TCM 3	Seek to Expand and Improve Public Transit Beyond Committed Levels
TCM 4	High Occupancy Vehicle (HOV) Lanes and Ramp Metering
TCM 5	Support RIDES Efforts
TCM 6*	Continue Efforts to Obtain Funding to Support Long Range Transit Improvements
TCM 7	Preferential Parking
TCM 8	Shared Use Park and Ride Lots
TCM 9	Expand Commute Alternatives Program
TCM 10	Information Program for Local Governments
TCM 11**	Gasoline Conservation Awareness Program (GasCAP)
TCM 12**	Santa Clara County Commuter Transportation Program
<i>Contingency Plan TCMs Adopted by MTC in February 1990 (MTC Resolution 2131)</i>	
TCM 13	Increase Bridge Tolls to \$1.00 on All Bridges
TCM 14	Bay Bridge Surcharge of \$1.00
TCM 15	Increase State Gas Tax by 9 Cents
TCM 16*	Implement MTC Resolution 1876, Revised — New Rail Starts
TCM 17	Continue Post-Earthquake Transit Services
TCM 18	Sacramento-Bay Area Amtrak Service
TCM 19	Upgrade Caltrain Service
TCM 20	Regional HOV System Plan
TCM 21	Regional Transit Coordination
TCM 22	Expand Regional Transit Connection Ticket Distribution
TCM 23	Employer Audits
TCM 24	Expand Signal Timing Program to New Cities
TCM 25	Maintain Existing Signal Timing Programs
TCM 26	Incident Management on Bay Area Freeways
TCM 27	Update MTC Guidance on Development of Local TSM Programs
TCM 28	Local Transportation Systems Management (TSM) Initiatives
<i>New TCMs in 2001 Ozone Attainment Plan</i>	
TCM A	Regional Express Bus Program
TCM B	Bicycle/Pedestrian Program
TCM C	Transportation for Livable Communities
TCM D	Expansion of Freeway Service Patrol
TCM E	Transit Access to Airports

*Deleted by EPA action from ozone plan

**Deleted by EPA action from ozone plan, but retained in Carbon Monoxide Maintenance Plan.

Source: Bay Area Air Quality Management District, Metropolitan Transportation Commission, 2001.

Status of Transportation Control Measures

TCMs A-E were approved into the SIP as part of EPA's Finding of Attainment for the San Francisco Bay Area (April 2004). The conformity analysis must demonstrate that TCMs are being implemented on schedule (40 CFR 93.113). TCMs A-E have specific implementation steps which are used to determine progress in advancing these TCMs (see Table 6). TCMs A-E are now fully implemented.

Transportation-Air Quality Conformity Analysis
Amendment to Transportation 2030 Plan and 2007 Transportation Improvement Program Amendment 07-06

TABLE 6*
IMPLEMENTATION STATUS OF FEDERAL TRANSPORTATION CONTROL MEASURES FOR OZONE (TCMS A – E)

#	TCM	Description	Ozone Attainment Plan Implementation Schedule	Implementation Status
A	Regional Express Bus Program	Program includes purchase of approximately 90 low emission buses to operate new or enhanced express bus services. Buses will meet all applicable ARB standards, and will include particulate traps or filters. MTC will approve \$40 million in funding to various transit operators for bus acquisition. Program assumes transit operators can sustain service for a five year period. Actual emission reductions will be determined based on routes selected by MTC.	FY 2003. Complete once \$40 million in funding pursuant to Government Code Section 14556.40 is approved by the California Transportation Commission and obligated by bus operators	\$40 million for this program was allocated by the CTC in august, 2001. The participating transit operators have ordered and received a total of 94 buses. Four of the initial proposed projects no longer appear viable; the buses ordered for these will be redeployed in alternate services. All buses were operational by 2006. TCM A is fully implemented.
B	Bicycle / Pedestrian Program	Fund high priority projects in countywide plans consistent with TDA funding availability. MTC would fund only projects that are exempt from CEQA, have no significant environmental impacts, or adequately mitigate any adverse environmental impacts. Actual emission reductions will be determined based on the projects funded.	FY 2004 – 2006. Complete once \$15 million in TDA Article 3 is allocated by MTC.	MTC allocated over \$20 million in TDA Article 3 funds during FY2004, FY2005, and FY2006. TCM B is fully implemented.

Transportation-Air Quality Conformity Analysis
Amendment to Transportation 2030 Plan and 2007 Transportation Improvement Program Amendment 07-06

#	TCM	Description	Ozone Attainment Plan Implementation Schedule	Implementation Status
C	Transportation for Livable Communities (TLC)	Program provides planning grants, technical assistance, and capital grants to help cities and nonprofit agencies link transportation projects with community plans. MTC would fund only projects that are exempt from CEQA, have no significant environmental impacts, or adequately mitigate any adverse environmental impacts. Actual emission reductions will be based on the projects funded.	FY 2004 – 2006. Complete once \$27 million in TLC grant funding is approved by MTC	In December 2003, the Commission reaffirmed its commitment of \$27 million annually over 25 years for the TLC program as part of Phase 1 of the Transportation 2030 Plan. MTC and the county Congestion Management Agencies (CMAs) have approved over \$27 million in TLC grant funding by FY 2006. In November 2004, MTC approved \$500,000 for regional TLC Community Design Planning Program, and in December 2004, MTC approved \$18.4 million in TLC funding for the regional TLC Capital program. As of December 2006, CMAs in Alameda, Marin and Sonoma counties approved an additional \$12.4 million in their county-level TLC Capital programs for a regional total of \$31.2 million. TCM C is fully implemented.
D	Additional Freeway Service Patrol	Operation of 55 lane miles of new roving tow truck patrols beyond routes which existed in 2000. TCM commitment would be satisfied by any combination for routes adding 55 miles. Tow trucks used in service are new vehicles meeting all applicable ARB standards.	FY 2001. Complete by maintaining increase in FSP mileage through December 2006	FSP continues to maintain the operation of the 55 lane miles of new roving tow truck coverage. This level of service was maintained through 2006. FSP continues to expand its service areas. TCM D is fully implemented.

*Transportation-Air Quality Conformity Analysis
Amendment to Transportation 2030 Plan and 2007 Transportation Improvement Program Amendment 07-06*

#	TCM	Description	Ozone Attainment Plan Implementation Schedule	Implementation Status
E	Transit Access to Airports	Take credit for emission reductions from air passengers who use BART to SFO, as these reductions are not included in the Baseline.	BART – SFO service to start in FY 2003. Complete by maintaining service through December 2006	Service began June, 2003. Service adjustments were made in September, 2004 to improve productivity and to increase the number of peak period trains stopping at the Airport station. Service was maintained through 2006 and is continued. TCM E is fully implemented.

**See Appendix A-4 for listing of specific projects implementing TCMs A-E.*

V. RESPONSE TO PUBLIC COMMENTS

MTC's Planning Committee released the Draft Conformity Analysis for a 30-day public review period from March 9, 2007 to April 9, 2007.

Responses to Public Comments are forthcoming.

VI. CONFORMITY FINDINGS

Based on the analysis, the following conformity findings are made:

- This conformity assessment was conducted consistent with EPA's regulations and with the Bay Area Air Quality Conformity Procedures adopted by MTC as Resolution No. 3757.
- The Amendment to the Transportation 2030 Plan and 2007 Transportation Improvement Program Amendment 07-06 provide for implementation of TCMs pursuant to the following federal regulation:
 - (1) *An examination of the specific steps and funding source(s) needed to fully implement each TCM indicates that TCMs which are eligible for funding under title 23 U.S.C. or the Federal Transit Laws are on or ahead of the schedule established in the applicable implementation plan, or, if such TCMs are behind the schedule established in the applicable implementation plan, the MPO and DOT have determined that past obstacles to implementation of the TCMs have been identified and have been or are being overcome, and that all State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding to TCMs over other projects within their control, including projects in locations outside the non-attainment or maintenance area.*
 - (2) *If TCMs in the applicable implementation plan have previously been programmed for Federal funding but the funds have not been obligated and the TCMs are behind the schedule in the implementation plan, then the TIP cannot be found to conform if the funds intended for those TCMs are reallocated to projects in the TIP other than TCMs, or if there are no other TCMs in the TIP, if the funds are reallocated to projects in the TIP other than projects which are eligible for Federal funding intended for air quality improvements projects, e.g., the Congestion Mitigation and Air Quality Improvement Program.*
 - (3) *Nothing in the TIP may interfere with the implementation of any TCM in the applicable implementation plan. (40 CFR Part 93.113(c)).*
- For carbon monoxide, motor vehicle emissions in the Amendment to the Transportation 2030 Plan and 2007 Transportation Improvement Program Amendment 07-06 are lower than the transportation conformity budget in the SIP.
- For Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO_x), motor vehicle emissions in the Amendment to the Transportation 2030 Plan and 2007 Transportation Improvement Program Amendment 07-06 are also lower than the applicable motor vehicle emission budgets for the 8-hour ozone standard.